VIRGINIA WILDLIFE

AUGUST 1984 ONE DOLLAR

VIRGINIA WILDLIFE

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Dedicated to the Conservation of Virginia's Wildlife and Related Natural Resources

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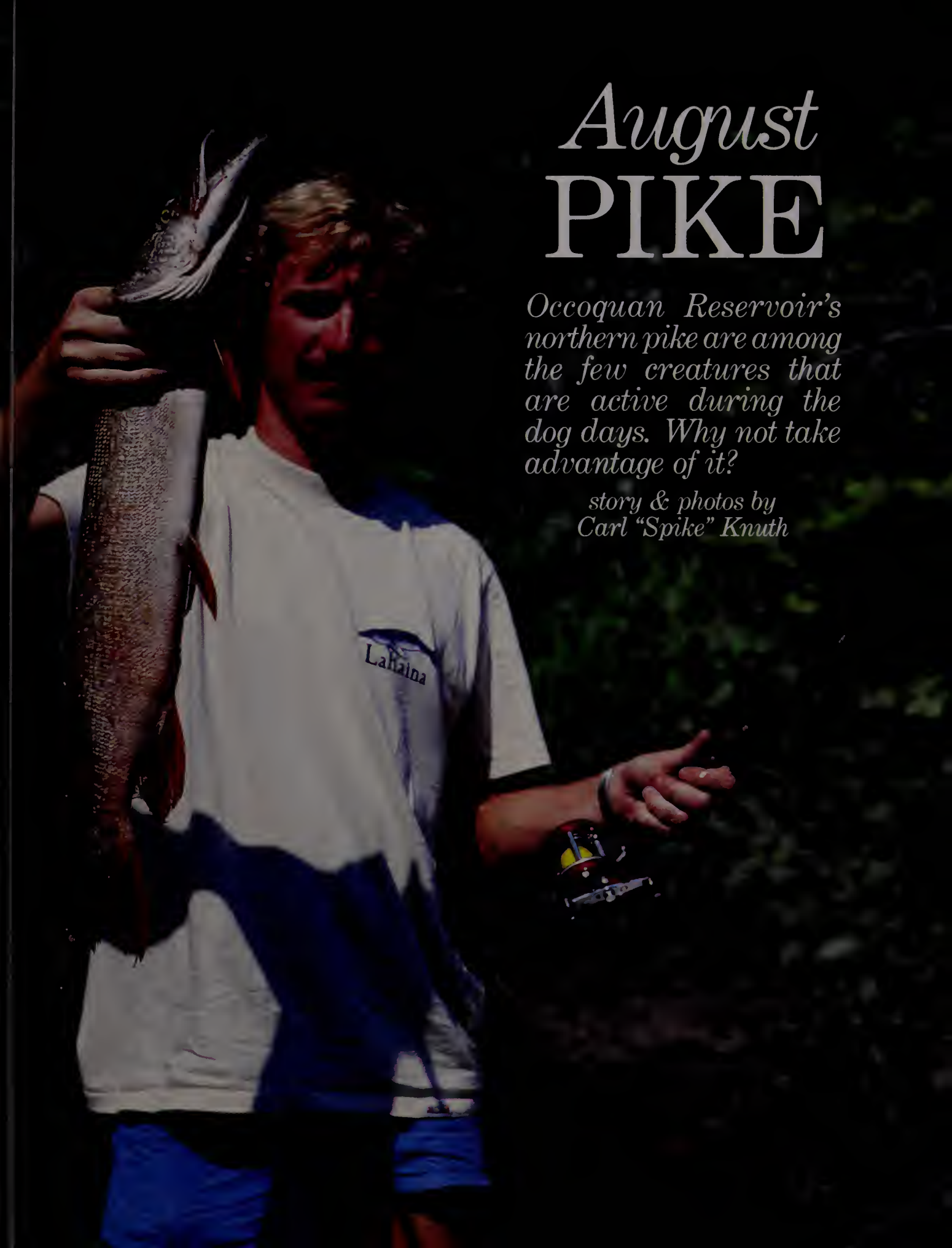
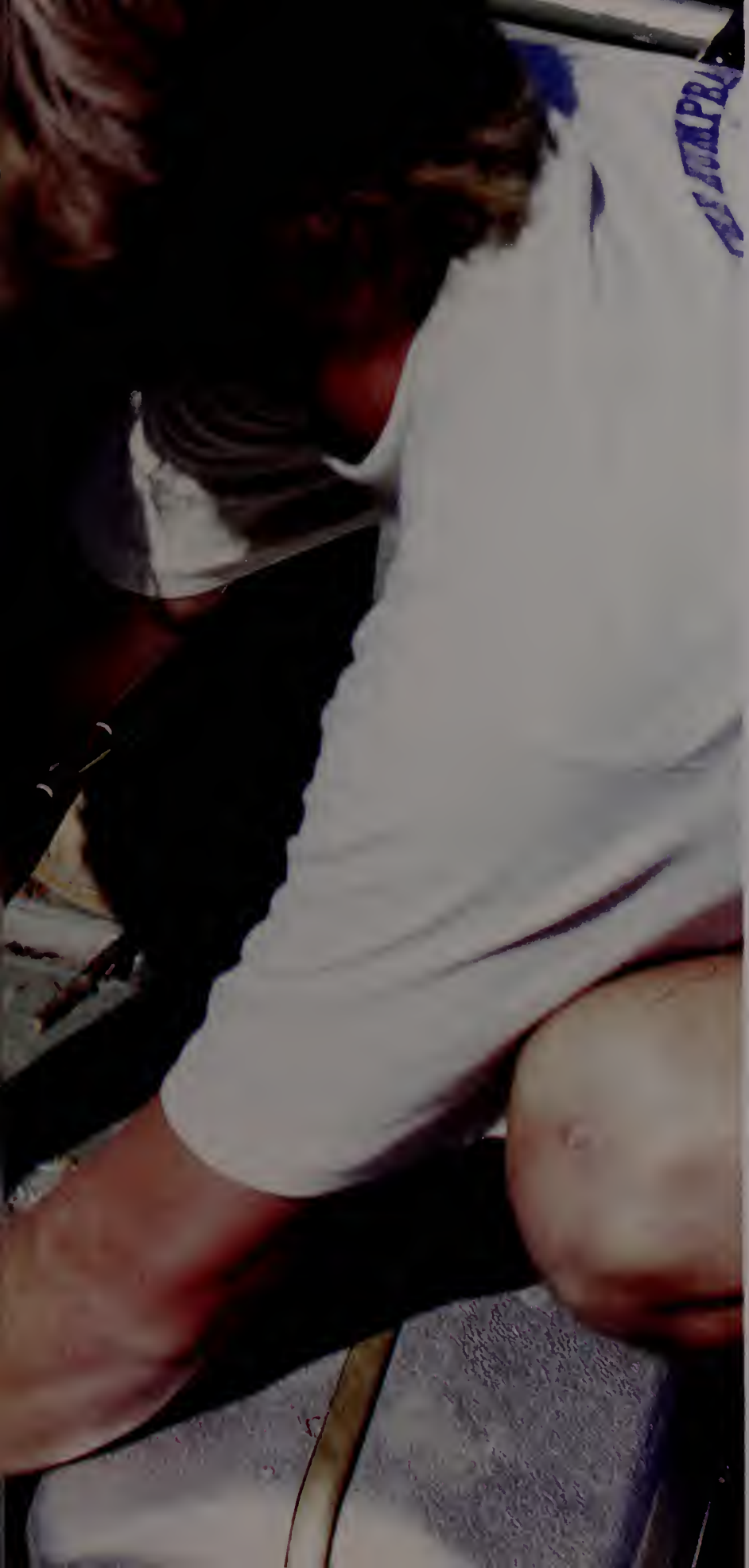
Back cover: photograph by Robin Schroeder. Is it time to renew your subscription, or to give one to a friend?



August PIKE

Occoquan Reservoir's northern pike are among the few creatures that are active during the dog days. Why not take advantage of it?

story & photos by
Carl "Spike" Knuth



The grating whine of cicadas' wings echoed from the trees along the bank of the lake. The heat of the August sun was stifling as we left what little breeze there was on the open water of Occoquan Reservoir. Here in a protected cove which was actually a creek mouth, there was no air movement in the morning haze. I have always disliked the sound of the cicada, not because I dislike the cicada, but because I've always associated the buzzing sound of its wings with hot weather. They "sing" more loudly, longer and more frequently during the "dog days" of August. Although I was born in that month, I have never liked August! Birds don't like August either, except its early mornings and evenings. Dogs and cats spend their time in the shade. It's hot, humid, still, uncomfortable and makes sleep nearly impossible. As a child, I always got strep throat in August.

Besides all that, fish don't bite in August. I wondered what in the world I was doing on Occoquan Reservoir on a hot, humid August day trying to catch a non-native transplant from the north?

Back in my home state of Wisconsin, where northern pike are common and numerous, they were seldom very active in August. It was said that they were losing and replacing their teeth and had sore mouths. This, of course, is a myth. However, it seems that when temperatures get too warm, pike activity drops off as food digestion slows down. That's why I was surprised when Jim McHugh, then a district fisheries biologist with the Virginia Commission of Game and Inland Fisheries, called me with an interesting story. He, fellow biologist Ed Steinkoenig and fisheries assistant Greg Bourcy had been sampling the fish population in Occoquan. They were electro-fishing some of the creek mouths as part of their regular population monitoring duties and "shocked up" three big northern pike of eight, 10 and 16 pounds. Actually, this was no surprise: fall gill-netting samples were producing more and more pike each year since the 1979 stocking of 48,000 fingerlings. Creel survey records showed that in 1981 only eight pike were recorded, but they averaged 11.8 pounds apiece. Now

Greg Bourcy removes a daredevle from one of Occoquan's northern pike (left).

suddenly, in the summer of 1982, a large number of big pike were being taken. This prompted Jim to call me to ask if I were interested in paying a visit to the reservoir.

I had met Jim (who now holds a similar position with the state of Alabama) and his crew at the boat ramp at Fountainhead Regional Park, one of two excellent facilities on Occoquan. The other is Bull Run Regional Park and both are owned and operated by the Northern Virginia Regional Park Authority. Occoquan Reservoir is a 1,700-acre water supply impoundment of the Fairfax County Water Authority, and is the largest impoundment in Virginia north of Lake Anna. Outboard motors of up to 10 horsepower are permitted on the reservoir.

The lake holds good populations of bluegills, crappies, largemouth bass and channel catfish. In recent years, white bass, striped bass and tiger muskies have been stocked. Northern pike were first stocked in 1966 and more intensive stocking efforts were begun in 1974. Those stockings are now apparently paying off in big northern pike, and we were out to prove it.

Greg Bourcy was joined by Shep LaRoche in one boat while Jim and I worked from another. After moving up the lake from Fountainhead, we slipped into a quiet cove and in the still, humid air began casting big spoons as we were serenaded by cicadas. Bourcy and LaRoche moved up into the cove toward the creek mouth, casting big red and white daredevles, a good standard lure for pike in all of its range. About 10 minutes had passed when one of LaRoche's casts into shallow water was greeted with a strong strike. The calm surface was shattered by a thrashing pike. After a couple of strong turns and a jump, Bourcy netted the fish; it weighed in at around five pounds. All fishing stopped for a few minutes while Bourcy and LaRoche took a scale sample and all necessary measurements. We all admired the fish and I was still shaking my head in disbelief that a fish of cold, northern waters could be caught in the tepid waters of the mid-south in August.

The northern pike's native range stretches through Canada, the Great Lakes Region of the United States, northern Europe and Asia, as far north as Finland and Siberia and in the British Isles. Probably no freshwater gamefish is as widespread. Over the years its range has grown. The big reservoirs of the Dakotas and Nebraska produce huge northern pike. As more reservoirs were built the northern pike moved west and south and is now so widespread that it could well be that the "northern" in northern pike will have to be dropped.

The pike has a long, lean body. It is generally colored with dusky green to light olive or gray-green on top, fading to yellowish, then to white on the belly. The adult pike has yellowish or creamy white, bean-shaped spots along its body against a dark background. However, basic colors are variable depending on water types, depth and even diet. The northern pike and its relatives found in Virginia waters are probably the most voracious fish in fresh water. The native chain pickerel, the muskie (native to the Clinch and New Rivers but stocked in a number of other lakes and rivers) and the tiger muskie (a hybrid cross between a northern pike male and muskie female) are all found in Virginia waters.

"Since pike are fish eaters, minnows of all kinds and sizes constitute good bait, but golden shiners and suckers are among the best."

In Virginia, Lake Orange in Orange County, Lee Hall Reservoir in Newport News and now Occoquan Reservoir on the border of Fairfax and Prince William Counties are the top northern pike waters. Frequently, anglers not familiar with the newcomers regard them all as pickerel (though the name "pike" is commonly used). The best way to tell them apart is to check the scales on the cheek and gill cover. Chain pickerel are fully-scaled on both; pike are fully-scaled on the cheek, half-scaled on the upper half of the gill-cover; and muskies are half-scaled on the upper haves of both. The tiger muskie is basically half-scaled on both, with maybe a few scattered scales on the lower half of the cheek. The 1983-84 Virginia Fishing Regulations pamphlet has a helpful identification chart at the back as an aid to discerning the difference.

The pike is a glutton, chiefly feeding on other fish, but eating just about anything that fits in its mouth, including ducks and muskrats. In spring and fall, these fish normally prefer shallow water over weed beds or sandbars. In summer they usually head for deeper areas near ledges or other structures, but usually not too deep.

Since pike are fish eaters, minnows of all kinds and sizes constitute good bait, but golden shiners and suckers are among the best. Pike can be taken by casting or trolling large spoons, spinner-bucktails and crankbaits. The world rod and reel record is a 55-pound, 15 ¾-ounce beauty taken in Czechoslovakia. The U.S. record was a 46-pounder caught in New York. The Virginia record is a modest but respectable 22 pounds, 9 ounces caught by William Dobbs of Woodbridge, Virginia out of Occoquan Reservoir in 1976.

Normally, the best times to catch pike in Virginia waters is in late fall or early spring, as it is for its cousin, the native chain pickerel. But here we were in the heat of summer, in Occoquan's shallow coves. Greg Bourcy had fished these coves on 10 other occasions. He told me he had spotted or caught pike in four creeks, all of which flowed year-round and had a larger flow than the average creek-feeding the reservoir.

"I haven't tried the upper arms at Bull Run or Occoquan Creeks," he said, "but these undoubtedly have pike too, since they are main tributaries or creeks feeding the reservoir." Bourcy's biggest pike was a 16-pounder. He also landed one eight-pound fish and 10 in the three- to five-pound class. In addition, he lost five fish and had 17 follow-ups from pike, two in the 10-pound class. He remarked, "Undoubtedly some of the pike that followed my lures. . .were [some of] the same fish, but the fish I caught were not recaptures, because they hadn't had scale samples taken from their sides." Bourcy noted that nine other pike ranging from two pounds to 15½ pounds were taken from Occoquan's waters in August 1982, 11 of them weighing over 11 pounds.

We moved farther up into the creek mouth and LaRoche tied into another pike, this one about four and a half pounds. The creek mouths were providing cooler groundwater for the pike which were apparently congregating there and feeding readily. One thing was sure: the northern pike had come to Occoquan and they weren't as fussy about the dog days of August as I was. □

Gregory Mertz

Here's how to make and use natural dyes from plants.

Harvest of Color

by Gregory Mertz

At the end of each growing season, the landscape becomes rich with color. Splashes of bright wildflowers, subtle green hues of grasses, trees and shrubs, and the seductive glows of ripening fruit, all color the countryside. Those colors can be harvested and reproduced in fabric as natural dyes.

The process is a simple one that requires only kitchen equipment and supplies. The procedure takes you for a nice walk in the country, guarantees you artistic success and gives you the authority of an ancient craftsman.

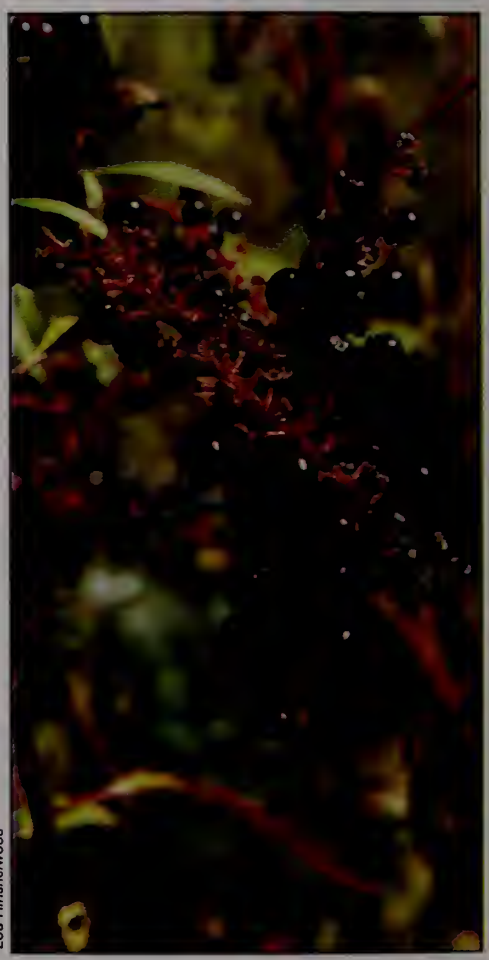
A 100-percent cotton, white tee-shirt is a good item with which to start your new hobby. The only other supplies needed are a three-quart pot, three one-quart bottles, a stirring stick, a strainer, your stove, water, alum and some plant matter. Do not use the same pots and pans that you use for cooking, because some plants are poisonous and there is no reason to risk possible contamination of your food.

Make sure that your tee-shirt is 100 percent cotton. Synthetics can be dye- and stain-resistant.

The alum is a common and inexpensive drug store product which in this case is used as a chemical preparation of the cotton fiber to encourage the dye to adhere to the cloth.

Selecting the plant which determines the approximate color for your dye project is the fun part. On these pages are photographs, botanical descriptions, and recipes for preparing several natural dye plants that are easily located and identified in this area. They have been selected because of their relatively easy use as natural dyes and because of their color range.

Goldenrod is an ideal plant for an expanded recipe instruction because it is typical of common dye plants and it is one of the most colorful to use.



Lou Hinshelwood

(Above) Pokeweed berries (or pokeberries) yield red dye.

General Instructions for a Natural Dye Project Using Goldenrod

1. Identifying the plant. Identify goldenrod by using the accompanying photograph or by using a wildflower guide book. There are approximately 50 species of goldenrod in North America, and fortunately, you can use the blossoms of any of them.

2. Collecting the plant. Goldenrod is easy to collect. Just snip off the flower heads and throw them into a large grocery bag. Do not be concerned if some of the foliage gets mixed in; it will not affect the resulting color. For the benefit of insects that may live in the flower heads, however, shake each snipping before dropping it into your bag. If you don't, you may end up with a kitchen full of deposed insects. As you gather your goldenrod harvest, tamp the collected flowers until you have half a bag. This is more than sufficient to dye a tee-shirt.

(Right) Experiment with different plants and mordants, but be sure that the material you select is 100% cotton or wool, as this yarn is.

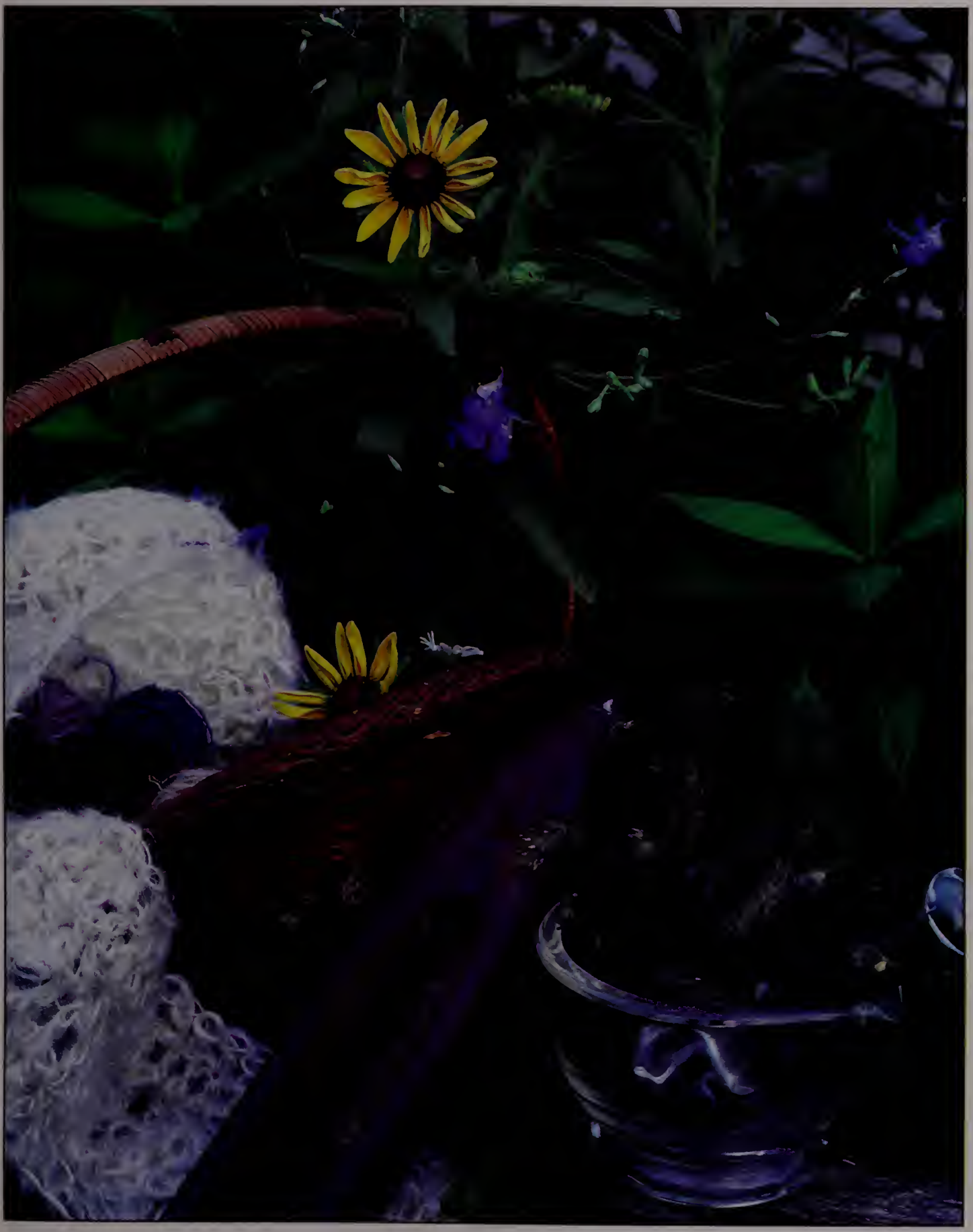
3. Storing the plant material. If you wish to store this or any other plant matter before preparing the dye bath, simply place it in a plastic bag and freeze it. It will store indefinitely.

4. Preparing the fabric for dyeing. Most plant dyes (including goldenrod) require that the fabric be "mordanted" before the dyeing process. This process requires that you first boil the fabric in alum water. Dissolve one ounce of drug store alum in a 3-quart pot of water. Boil the tee-shirt in the mixture for 15 minutes. Let the mordanted fabric cool before proceeding. If you want to do the dyeing process at a later time you can store the mordanted fabric in an air-tight plastic bag in your refrigerator indefinitely.

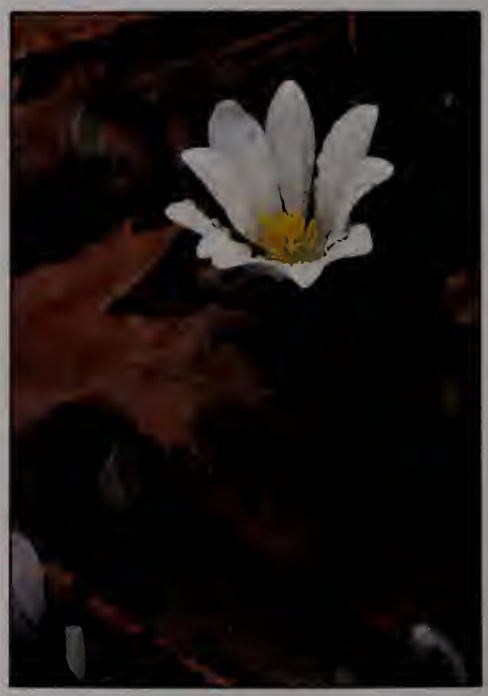
5. Making the dye bath. To prepare the dye bath, place the plant material in a 3-quart pot, cover with water and bring to a boil. Boil it for 15 to 20 minutes. Strain the dye bath into a bottle or another reserve container. If you wish to store the dye-bath for an extended period of time before using, add 1/4 cup of rubbing alcohol to prevent growth of molds and bacteria. Cap it and store in a cool dark place or in your refrigerator.

6. Dyeing. This is the easy part: simply place the fabric in the dye bath and boil it for 15 minutes.

7. Finishing. After boiling, let the fabric sit in the dye bath until cool. If you are in a hurry you can remove the fabric and rinse it in hot, not cold, water until all excess dye is removed. Rinsing in hot water prevents you from "shocking" the fabric. Shocked fibers are brittle and do not wear well.



Robin Schroeder



R. C. Simpson

(Above) The root of this plant, bloodroot, will dye your fabric orange.

The results of your labor will be a bright, lemon yellow tee-shirt.

This can be just the beginning. Hooked rugs, sweaters, shawls, scarves, needlepoint, and "god's eye" are just a few of the many home-crafted items that can be colored with natural dyes. Be sure that whatever you choose is made of 100 percent cotton or wool, no synthetics. Natural fibers are receptive to plant colors or their mordants. In Step #4, the cotton was mordanted. This is a chemical process that "primes" the fiber to accept the dye color. Without it, the color would not hold to the cloth.

Along the length of a fiber there are many sites that can be chemically prepared to accept dye molecules. Sometimes the process is as simple as wetting the fiber so that it swells and exposes the bondable molecules more fully. In other cases the intermediary mordant is required to bond to the fiber, and like a chain, the mordant to the dye. In every case the process requires heating because the chemical bonding between fiber and dye, fiber and mordant, and mordant and dye needs energy. The heat of the boiling dye bath provides it.

Alum is one of many mordants. Since different plants render dyes of different chemical properties, you may need to use other mordants ranging from vinegar to tea, depending on the plant.

The chemistry may be varied and complex but one of the easy features of using natural dyes is that exact quantities of plants, mordant, fabric and water are variable. So are cooking times. We've included a series of "recipes" or guidelines, each designed to dye approximately eight ounces of wool or cotton. If you wish to use more fabric, increase the quantity of the material accordingly. If you wish to be more exact or to become more involved in the craft of natural dyes, there are several excellent books on the subject. Two of the best are: *Natural Dyes and Home Dyeing* by Rita J. Adrosko, 1971, Dover Publications, Inc; and *A City Herbal* by Maida Silverman, 1971, Alfred A Knopf, Co.

The next time you have a creative urge or simply wish to go on a walk, try a project using natural dyes. It is a pleasant pastime that immortalizes on fabric the colors of the landscape.

Natural Dye Recipes

Red: Pokeberry

1. Boil berries for 10 minutes; strain.
2. Mordant wool or cotton with vinegar by boiling for 10 minutes.
3. Boil wool or cotton with dye bath for 20 minutes.
4. Allow to dry.
5. Rinse and keep out of intense light.

Orange: Dodder

1. Boil dodder stems.
2. Mordant wool & cotton with alum (by boiling in alum solution for 15 minutes).
3. Boil fabric in dye bath for 10 minutes.
4. Rinse.
5. Dry.

Yellow: Goldenrod Flowers

1. Boil flowers for 15 minutes.
2. Mordant cotton or wool with alum.
3. Boil fabric in dye bath for 10 minutes.
4. Rinse.
5. Dry.

Onion Skins

1. Boil onion skins for 10 minutes.
2. Mordant fabric with alum.
3. Boil together for 10 minutes.
4. Rinse.
5. Dry.

Blue: Wild Indigo

1. Ferment leaves in water for 3 days.
2. Mordant fabric with alum.
3. Boil fabric in dye bath for 15 minutes.
4. Rinse.
5. Dry.

Tan: Maple Bark

1. Boil bark for 15 minutes.
2. Mordant with alum.
3. Boil fabric in dye bath for 15 minutes.
4. Rinse.
5. Dry.

Brown: Black Walnut Husks or Bark

1. Boil husks or bark for 15 minutes.
2. Boil fabric in dye bath 15 minutes.
3. Rinse.
4. Dry.

Gary Gaston

Surprisingly, pink dye can be extracted from some lichens.

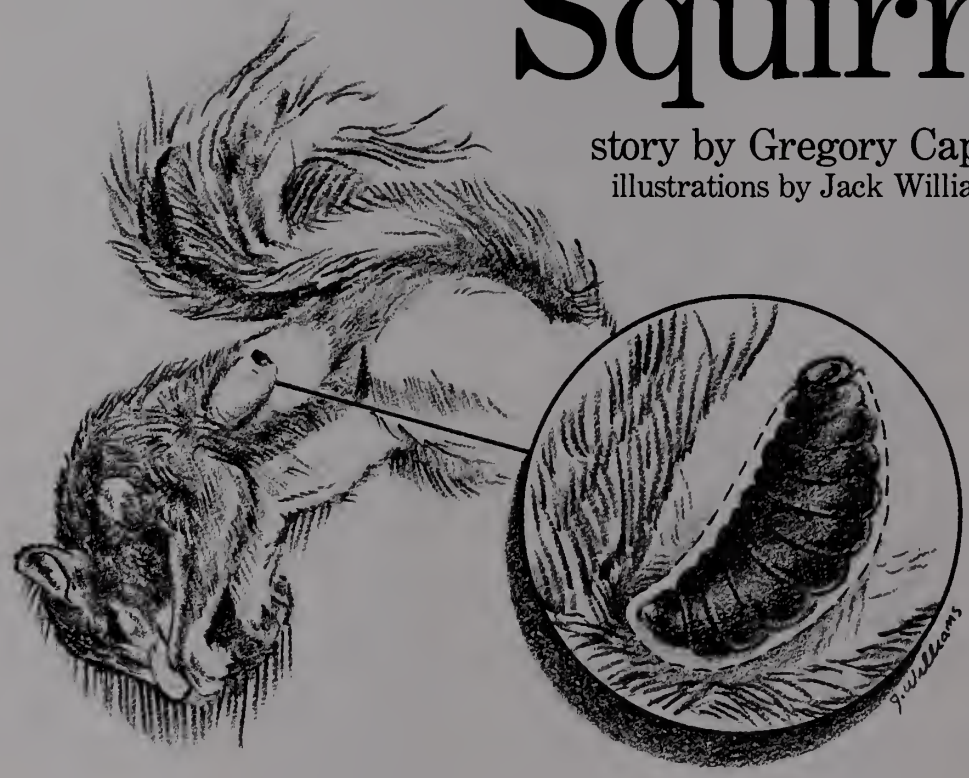
Color Guide for Wild Plant Dyes

To Obtain This Color:	Use This Part	Of This Plant	With This Mordant
Yellow	Fresh inner bark	Black oak	Alum
Yellow	Flower	Camomile	Alum
Yellow	Root	Dock	Alum
Orange	Root	Bloodroot	Alum
Orange	Flower (Yellow best)	Dahlia	Chrome
Orange	Fruit	Pokeweed	Vinegar
Green	Spring leaves	Lily-of-the-Valley	Chrome
Blue	Fruit	Blueberry	Alum
Blue	Fruit	Elderberry	Var.
Blue	Fruit	Grape	Alum
Blue	Fruit	Mulberry	Var.
Lavender-Purple	Fruit	Blueberry	Alum
Tan-Brown	Root	Red cedar	Alum
Tan-Brown	Fruit	Elderberry	Var.
Tan-Brown	Green beans	Coffee	Alum
Tan-Brown	Leaves	Tea	Alum
Tan-Brown	Inner bark	White Birch	None
Grey-Black	Leaves	Bayberry	Alum
Grey-Black	Young shoots	Blackberry	Alum

Obviously, since some of the plants listed can be used to make more than one color, you'll have to experiment with those, using more or less plant material, leaving the fabric in the dye longer, etc. Caution: Since some of these plants are posionous, take steps to prevent pets or small animals from ingesting them or their dyes. □

Save that Squirrel

story by Gregory Capelli
illustrations by Jack Williams

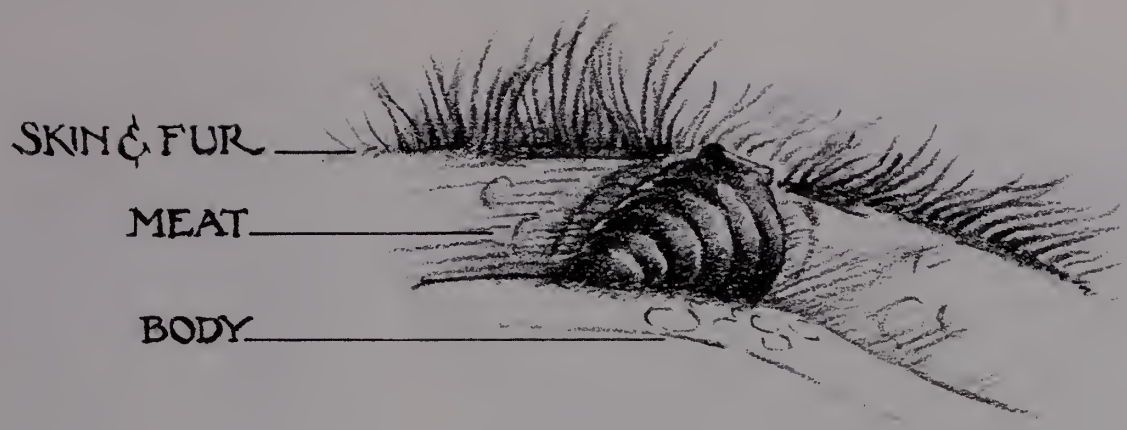


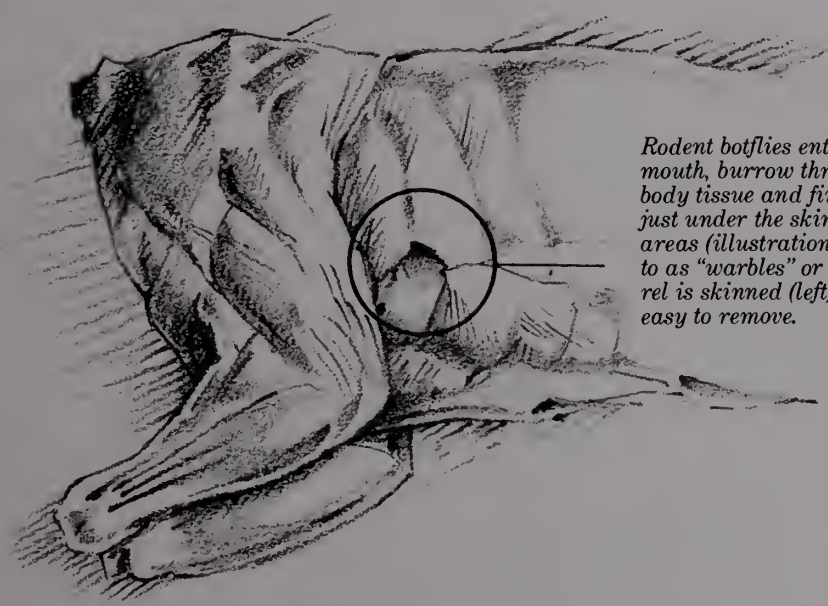
(Left) The small warble or infected area does not contaminate the entire squirrel, so it isn't necessary to discard all the meat.

Hunters who participate in early squirrel seasons may encounter the botfly—and usually throw away the afflicted squirrels. Here's how to avoid wasting them.

Wildlife, like humans, suffer from a wide variety of diseases, parasites, and injuries. Although a hunter or fisherman may occasionally encounter an obviously ill or injured animal, such occurrences are rare since any badly handicapped creature usually succumbs quickly to starvation or predation. A few afflictions, such as tularemia in rabbits (caused by a bacterium) and trichinosis in bears (caused by a nematode worm) are fairly common, but most hunters are aware that with proper precautions, these usually pose no problem for humans. Hundreds of other kinds of parasites or diseases affect game animals, but most do not seriously harm the animal and usually are not of concern to a human who may eat the animal.

One parasite, however, almost invariably results in wasted meat, even though it is seldom fatal to the animal and does not make most of the meat inedible. This is the rodent botfly (sometimes known as a heel fly) which attacks squirrels and other rodents to produce swollen, infected areas that are commonly called "warbles" or "wolves." Related species of botflies infect deer and other





Rodent botflies enter through the nose or mouth, burrow through membrane and body tissue and finally lodge themselves just under the skin. The swollen, infected areas (illustration above) are often referred to as "warbles" or "wolves." Once the squirrel is skinned (left), the afflicted area is easy to remove.

wildlife, as well as various domestic animals. Infections are most common in the late summer and early fall, including the time when early squirrel seasons are in effect throughout much of Virginia.

Accurate information on the rate of infection by botflies and the amount of meat discarded by hunters because of the pest is hard to come by. In a recent study in Mississippi, however, biologists found that during one season 40 percent of squirrel hunters encountered botflies, and 98 percent of these hunters discarded the infected squirrels. Some 60,000 squirrels were wasted as a result. In North Carolina, estimates of the number wasted during some past seasons range as high as 300,000 or more. Other information in the Mississippi survey indicated that the majority of hunters finding a botfly had other negative responses, including changing locations, hunting less, and even stopping hunting altogether. No extensive surveys have been done in Virginia, but botflies are apparently common throughout the state, though highly variable from year to year and from one area to another. Jack Gwynn, a game biologist supervisor with the Commission of Game and Inland Fisheries, reports that 55 percent of the squirrels checked in Isle of Wight county during early October one year were infected; however, only about one percent were infected in neighboring Southampton County. In the area near Philpott Reservoir (Patrick and Henry Counties), 38 percent were infected one year but only 12 percent the next. Other areas which have been surveyed at some time include Fort Pickett (46 percent infected), Campbell County (31 percent), Fort A.P. Hill (four percent), Quantico Marine Base (one percent), and Bath County (no squirrels were infected). Gwynn points out that these results are based chiefly on surveys from relatively small areas for only one or two years.

Last fall, I surveyed about 50 game wardens and other Game Commission personnel regarding the past season. As in the earlier studies, results were highly variable from place to place. An overall average rate of infection of about 23 percent seems to be a "best guess" for last year's early seasons. Many respondents, however, felt that this was lower than normal due to the generally dry summer.

Virginia hunters are presumably no more fond of the botfly than are Mississipppi hunters. Typical, perhaps, is an Isle of Wight County hunter who wrote to the Commission complaining that ". . .nine out of 10 have a worm until the first heavy frost . . . which means that you throw away nine out of 10." This gentleman obviously did not consider such animals fit to eat and assumed, probably correctly, that other hunters felt the same way. However, his suggestion to delay the season opening until November 1, when the botflies have left the squirrels, is not particularly popular with hunters.

Despite the old adage about familiarity breeding contempt, perhaps some knowledge of botfly biology will make this organism a little *less* contemptible. To the scientist, the rodent botfly is an insect known as *Cuterebra emasculator.* Like other flies, its life cycle involves the familiar sequence of egg-larva-pupa-adult. And, as in others, the adult stage is very brief compared to the earlier stages. Many details of the life cycle are not fully known, but we do know the general pattern.

Eggs are laid by adult females during mid- to late summer in areas frequented by hosts. This may be along runways on the ground, on logs or plants, or near the entrances to dens. Eggs hatch into two-millimeter-long (.08 inch), worm-like larvae which remain attached to their substrate at one end. Eventually, some of them come into contact with a host. In addition to squirrels, hosts include other rodents such as mice and ground squirrels. In many areas, chipmunks are probably the most frequent hosts. (One common misconception is that the presence of cattle in an area increases the likelihood of squirrels contracting botflies. However, the species found on cattle is different from the rodent botfly, and is not known to occur in squirrels.)

The entry location into the host is probably the nose or mouth, where larvae burrow into the moist membrane and then through other body tissue to a location just under the skin. Some may attach at other parts of the body, and then enter the animal through abrasions in the skin. The final location of the tiny larvae may be anywhere on the host, but in squirrels it typically occurs in the neck, shoulder or groin areas.

Once in place, the larva cuts a small hole in the skin, through which it breathes by means of spiracles (tubes) at its tail end. It then begins feeding on nearby tissue and tissue products produced in response to the infection. Larvae require variable amounts of time to mature, depending on the host; probably about 20 to 30 days is typical in squirrels. The larva grows to about 23 millimeters (1 inch) at maturity, having become rather thick, flattened on one side, and dark brown in color. It is quite apparent as a conspicuous lump on the host, and can sometimes be seen protruding through the enlarged breathing hole.

Eventually the mature larva simply works its way out through the opening in the skin and falls to the ground, where it may burrow a short distance into leaf litter or other debris before pupating. In the pupal stage the insect becomes enclosed within a rigid outer shell; complex physiological processes then occur which change the worm-like larva into the adult fly. Most botflies probably spend the winter as dormant pupae. Then the next summer metamorphosis is complete and the adult, whose stocky, rounded shape somewhat resembles that of a bumblebee, emerges. Adults live only a few days and do not feed; their only purpose is to mate, followed by the females laying eggs to complete the cycle.

While the larva is on the host, some small damage to muscle tissue (i.e., meat) in the immediate vicinity of the infection may occur. Also, the host's immune system attempts to fight the parasite, as it would any invader, and a little pus (dead white blood cells) may be present. Normally, however, after the parasite leaves, the wound heals quickly and is not noticeable after a couple of weeks or so. Occasionally a bacterial infection occurs, resulting in a somewhat longer healing time. Usually, significant complications occur only in rare cases of severe multiple infection; in the great majority of cases the host sustains no permanent ill effects. (The name *emasculator,* by the way, refers to the old belief that the larva castrates male hosts if it develops in the scrotal area. This has recently been conclusively disproven.)

It is true no doubt that most people have a strong revulsion to parasites, and the wound resulting from botfly infection may be unpleasant for some to look at. Still, there's no need to waste the whole squirrel. The larva carries no harmful diseases or toxins, and the non-infected part of the squirrel poses no hazard whatsoever to humans. When the squirrel is skinned, the larva, of course, falls away. Sometimes there is virtually no damage to the meat at all. In other cases there may be a small amount of damaged muscle with a small cavity in it, but this can simply be cut away, with little loss of meat. At most, no more than the infected quarter need be discarded.

In some states, the botfly is a major consideration in determining the opening date of squirrel season. For example, biologists in North Carolina believe that the waste of several hundred thousand squirrels, mentioned above, was eliminated by changing the opening date from mid-September to mid-October. Another argument for changing to a later opening date is that during September and early October adult females are typically still caring for young in the nest; every female killed during this time results in a loss of an additional two to three squirrels which would have been available a few weeks later, but which starve instead.

Traditions linger, however, and the various early seasons remain popular with hunters. And it is true that squirrel populations in general continue to sustain themselves despite the loss of young during the early seasons (yearly variation in mast crop is the single most important influence on squirrel numbers). Still, anyone who chooses to take advantage of an early season has an ethical obligation to understand natural processes occurring during that time and to avoid needless waste. It seems a shame to kill an animal, only to toss it away because of a botfly, when a little understanding and a sharp knife can put most of the meat on the table or in the freezer. □

Editor's note: If you would like to help provide information on botfly parasitism in Virginia, as part of a survey planned for this fall, send your name and address to the author, c/o Biology Department, College of William & Mary, Williamsburg, Virginia 23185. You will receive a personal acknowledgement and a form on which to record your results.

by David Coffman

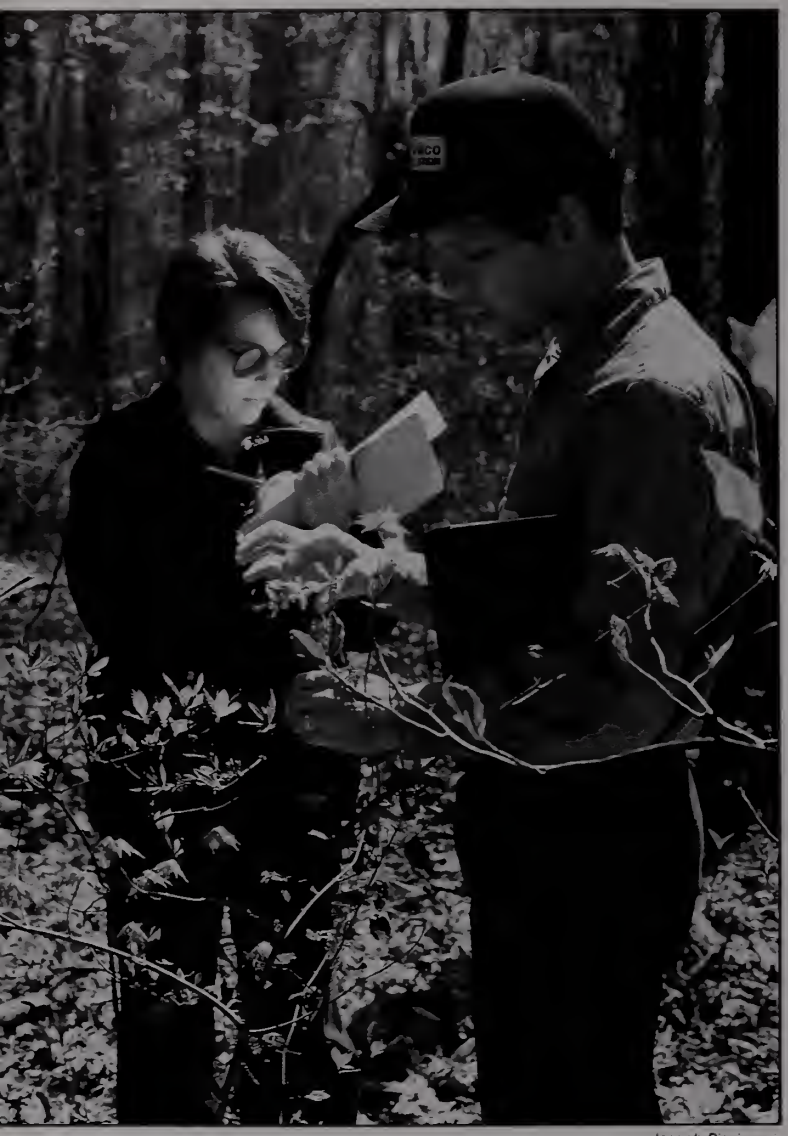
Joseph Piscioneri

MEET Buffalo Creek Nature Area

Campbell County is the location for Westvaco's unique Buffalo Creek Area, which now has a new nature trail constructed by the Boy Scouts, state and local agencies and conservation groups.

Lynda Robb, Virginia's First Lady, recently led a group of natural resource and environmental officials in dedicating a new educational nature trail on Westvaco Corporation's Buffalo Creek Nature Area in Campbell County. A flowering dogwood and eastern hemlock were planted at the head of the trail in recognition of the seven organizations who helped develop it.

Over three miles of trails and other improvements were made in a cooperative effort with local Boy Scout Troops, the Virginia Federation of Garden Clubs, Lynchburg Parks and Recreation Department, Virginia Division of Parks and Recreation, Society of American Foresters, the



Joseph Piscioneri

(Preceding page) Virginia's First Lady Lynda Robb "digs in" at the dedication ceremony, as Westvaco Virginia Woodlands Manager Joe Collins looks on. (Above) On the annual wildflower tour, trail guide Joe Lancaster identifies wild azalea. (Top right) Visitors to the nature area may photograph wildflowers—but they may not pick, dig or transplant flowers. (Bottom right) Numerous hollows feed water into Buffalo Creek.

David Coffman

C.J. Hooks

Garden Club of Virginia and the biology department of Lynchburg College. Leaders of these organizations attended the May 2 dedication, with area representatives to the General Assembly and other conservation organizations. The trails, three footbridges, information station and trail signs were built as part of two Eagle Scout projects. More than 800 volunteer man-hours (mainly from Scout Troop 48 as part of conservation projects) were involved in completing the Nature Area improvements.

The 150-acre Nature Area is managed as part of Westvaco's Special Areas Program for use by youth groups, conservation organizations, garden clubs, school classes and citizens interested in studying and enjoying the forest environment. Westvaco foresters routinely identify and protect significant areas with unique features through their Special Areas Program. These Special Areas are reserved from normal forest management activities because of their exceptional value as historic landmarks, unusual geological features, habitat for rare or endangered plants and animals, or sites providing opportunities for outdoor recreation or environmental education, such as those found along the Buffalo Creek Nature Trail.

A unique six-acre stand of eastern hemlock and 31 acres of adjacent upland hardwood forest within Westvaco's Buffalo Creek Nature Area are registered as a Society of American Foresters Natural Area.

The Society's Natural Areas Program is the oldest and largest register in the United States devoted to the certification and preservation of forest cover types. The Natural Area designation allows for preservation of the natural ecology of the area and authorization for scientific observation and research by qualified scientists and students.

The hemlock stand which lies on a north-facing, rocky slope above Buffalo Creek is considered biologically unique because it is located outside its common range. The normal range is 30 miles to the west in the Blue Ridge Mountains at elevations above 800 feet.

This hemlock stand, at an elevation of approximately 550-700 feet, is healthy considering its average age (130 years) and the steep, rocky terrain. In the absence of logging activity since the mid 1800's, many of the hemlock trees have grown to diameters in excess of 20 inches and stand over 100 feet tall.

Mountain laurel is one of the few understory plants that manages to survive in dense shade and acidic conditions produced by hemlock. Unlike most needle-leaf trees, hemlock is very tolerant of shade and these are expanding into the surrounding upland hardwood forest.

Hemlock stands are relics of the Ice Age. These disjunct remnant stands survive only on cool north slopes. However, scattered in the stand are short leaf pine, oak, and remnants of American chestnut, all older than the hemlocks. This suggests that the site was once a mature hardwood forest which was cleared either by human activity or natural catastrophe. The specific history of this unique hemlock stand remains a mystery.

The Buffalo Creek Trails wind through six distinct plant communities. Each of these ecologically diverse areas contains a variety of plant species including trees, shrubs, vines, ferns, mosses, wildflowers and grasses. A special brochure containing a map and description of the plant communities has been produced and is available at the information station at the trail head. The area is located on Virginia Route 24, two miles west of Evington on the Campbell-Bedford county line. A sign and parking lot for the area are adjacent to the highway for easy access to the Nature Area.

The unique forest area along Buffalo Creek has been used by Westvaco since the early 1970's for annual wildflower tours, Boy Scout activities, outdoor classroom field trips for area schools and other environmental education and outdoor recreation activities.

Joe Collins, Westvaco Timberlands' Virginia Woodlands Manager, says the Nature trails, parking areas, information brochure and map will enhance use of the area. He notes that the Nature Trail project is an excellent example of what can be accomplished by using the combined cooperative resources of local forest industry, state agencies, civic groups and conservation organizations.

"We have a long-standing commitment to enviromental education," Collins added, "and we recognize that the Buffalo Creek Nature Area offers an excellent opportunity for people to explore, observe and study the variety of forest types found in this unique and beautiful area. We ask only that those who use the trails respect this special area and help protect it." □

A Marsh Portrait:

AUGUST

On a warm night at summer's end, the moon and a lone observer witness both the teeming life of a marsh, and its tranquility.

by Ellen Gwynn

Nothing stirred beneath a frozen sea of clouds where the moon hung. Because of generous rains, the thin-leaved millefoil formed irregular mats in this part of the marsh. As the boat made a path along the edges of the tangled carpet toward the nearest island of black needlerush, the dipping of the oars, a tentative frog's piping, a screech owl's willowy notes came as isolated sounds followed by silence. Where a line of houses nestled at the end of the woods behind me, lights glimmered. A fine film of clouds slipped over the moon like a wave slowed in its motion; the marsh and the varied creatures it harbored seemed to sleep in darkness; and I continued toward the island to see how deep this slumber was on a warm night at summer's end.

Frank Sargeant/U.S. Photographers

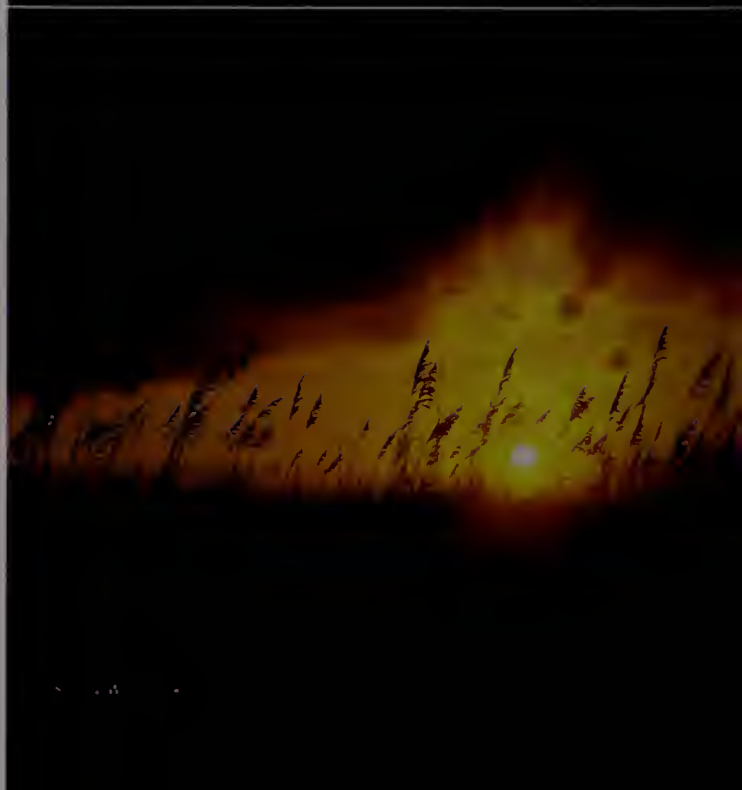
"Nothing stirred beneath a frozen sea of clouds . . . as the boat made a path along the edges of the tangled carpet, the dipping of the oars and a tentative frog's piping came as isolated sounds followed by silence."

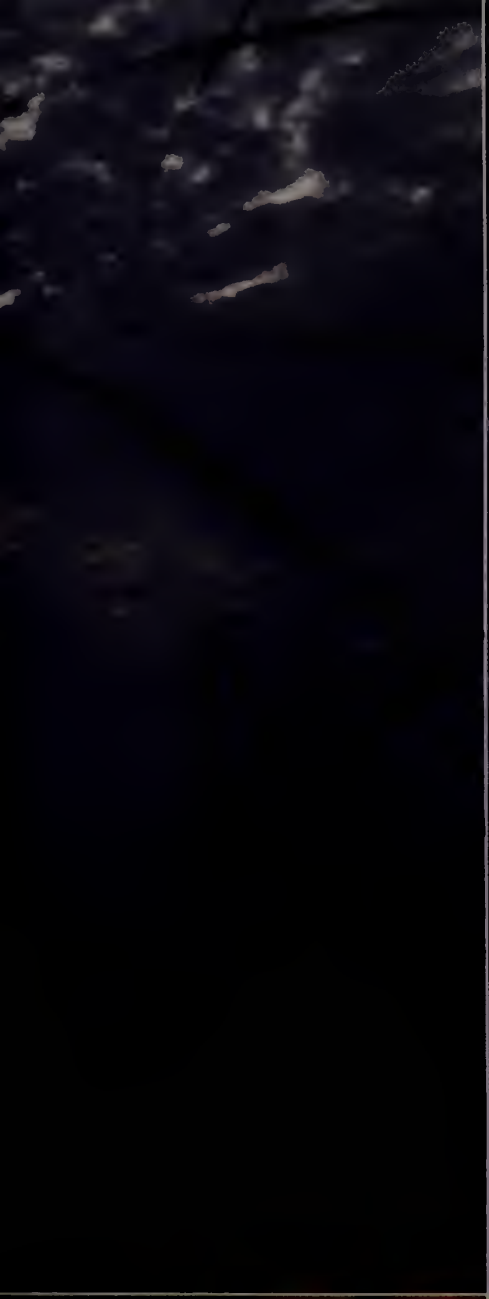
When I neared the rush bank, I became aware of a sound—faint at first. Neither the call of any bird I recognized, nor of any frog I'd ever heard, the chorus swelled in intensity and pitch as I drew closer to the vegetation. Within the beam of my flashlight was a swarm of insects whirling over the water in erratic flight. After each dip of the oars, the number of bodies within the beam grew in proportion to the sound of rapidly beating wings. Not one alighted. Not one could I snare by a sweep of my hand through the light. The night that had been a citadel of silence filled with the sound of wings as I moved along the bank toward the widest part of the island. Here, the number of insects increased to such a density that it seemed impossible so many wings could beat within the beam, yet still elude my efforts to grasp just one to identify.

On foot I made my way into the vegetation following a path that soon became lost in the jungle of forbidding stems. So tightly packed were the tiny bodies in the rush that the strident whine of wings was deafening when I bent close to the ground. How could one imagine the astronomical numbers necessary to generate such a sound?

There would be nights filled with a life as opulent as the fliers and as ephemeral, a life without voice under the tranquil face of the moon, and unseen, which would find its way to the sea beneath the dark water. The labyrinths of estuarine marsh were often the nurseries or even the birthplace of tiny swimmers that would be carried by the outgoing tide and the flow of rivers, into the shelterless reaches of the sea.

In the morning, near the marsh edge that eased gradually to shallow water from muddy grass studded with the knobs of a cypress tree, I watched the moon end its vigil. Low and refulgent at dawn, only faintly golden, its rays formed a path of silver interrupted at intervals by millefoil. The broken funnel of light gave way to the steady encroachment of shadows as the moon turned to a thin but lustrous red, and slipped downward through the branches of the cypress as a bird might descend the slow deliberate steps from limb to limb. It darkened to pale copper as it neared the haze on the horizon. For a time, it wore the sun's fire, a brief borrowing before the moon sank into the mist and minutes later reappeared as a flat disc, a phantom scarcely more than its own pallid outline. □





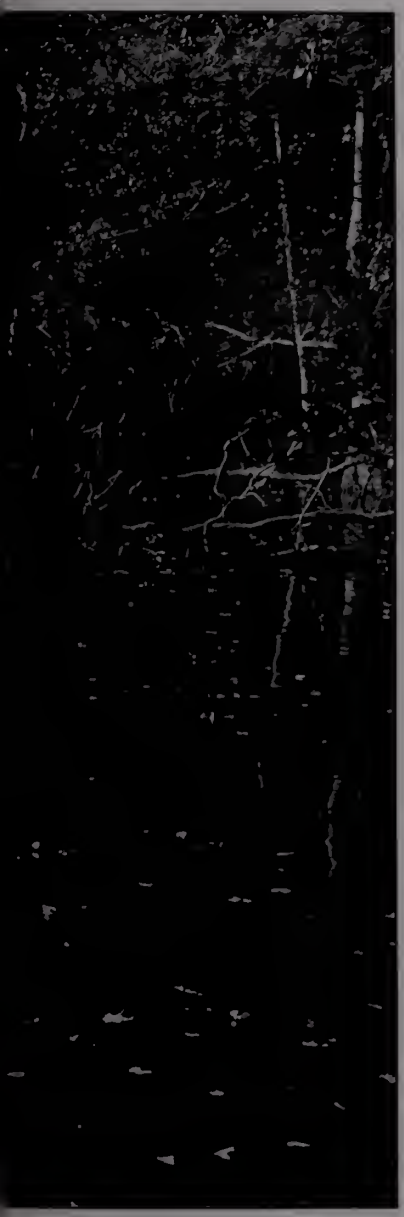
Bill Portlock

Michael Gadomski

Fishing
At Lake Drummond

This lake is in the center of a wildlife refuge, but is just minutes from the bustling Hampton Roads area. Black crappie, fliers, bullhead catfish and yellow perch will make a trip there worthwhile.

story & photos by Bob Gooch



Using his paddle as a boat pole, Joe Hallissy picked his way through the rubbish of what had once been a hunting cabin on the shores of 3,000-acre Lake Drummond. Only the piers that once supported it above the water were still visible, mere stubs to mark the cabin's watery grave.

"Looks like a good crappie hole," I noted as his son Jim and I flexed our light spinning rods. I have long associated Lake Drummond with big black crappie, a fish I first met there about a decade ago.

The words had hardly left my lips when a solid strike dipped the tip of my little rod almost to the surface. I struck back and got a sharp reply from deep in the coffee-colored water.

"No crappie!"

The spirited fight ended quickly, however, and I swung a brightly colored sunfish into the boat. Short bodied and almost round, its anal fin was almost as long as its dorsal, and its green flanks were spotted with dark flecks. The fish was about the size of my hand.

"A flier sunfish," I answered in response to Jim's questioning eyes. It's more common in the swampy waters to the south, and Lake Drummond is one of the few places in Virginia where you can catch the scrappy sunfish.

Black crappies and fliers along with an abundance of bullhead catfish and yellow perch are the main angling fare in the shallow bog lake in the Great Dismal Swamp National Wildlife Refuge, but fishermen take an occasional chain or redfin pickerel and on rare occasions a largemouth bass. Leached by tannin and other organic acids from the peat soil, the water is simply too acidic for bass and pickerel.

But the bullheads, crappies, fliers and yellow perch flourish in this wilderness lake just minutes from the busy Hampton Roads Area, one of the major population centers on the east coast. Nearby are the port city of Norfolk, the resort city of Virginia Beach, bustling Hampton, Portsmouth, and Newport News, the big Norfolk Naval Base, the Langley Air Force Base, and NASA where Jim works as an engineer. Still, we had the big lake almost to ourselves that weekend.

Located near the center of the 50,000-acre wildlife refuge, a virtual wilderness of swamps, cypress, gum, holly, juniper, magnolia, maples, oaks, tupelo, Spanish moss, and other plants and trees, most people consider the lake inaccessible. The bear and deer populations once drew hundreds of hunters to the lakeside camps every autumn, and there are bobcats, otters, raccoons, and a great variety of birds. But the lake is easily accessible by the Feeder Ditch, the route we had taken early that morning. It connects the lake with the Dismal Swamp Canal approximately three miles to the east just off of U.S. Highway 17 south of Norfolk. A public boat ramp provides access to the canal near the entrance to the Feeder Ditch.

A small U.S. Army Corps of Engi-

Lake Drummond is located near the center of the Great Dismal Swamp National Wildlife Management Area, a virtual wilderness of cypress, Spanish moss, gum, oaks and other trees and plants. Here, autumn leaves litter the surface of the water; fall is a good time to fish this lake for crappies and fliers.

A spunky Lake Drummond flier puts a graceful bend in Jim Hallissy's light spinning rod (above). The Feeder Ditch which provides the only public access to Lake Drummond in the wildlife management area. The lake is approximately three miles from the boat ramp just off U.S. Highway 17 south of Norfolk (above right).

neers levee near the lake maintains the water level, and it blocks boat travel, but a self-service tram is used to portage around the dam. It is easy to operate and will consume 10 minutes of your time at the most.

The history of the Great Dismal Swamp is an article in itself, but suffice it to say that generations of entrepreneurs tried to lick it—drain the lake, harvest the timber, and turn the fertile land into farm country. Even George Washington had a go at it, but early in the 1970's the last owner, a big timber corporation, took advantage of a tax break and gave it to the U.S. Department of the Interior to be preserved in its natural state. The U.S. Fish and Wildlife Service now manages the vast wilderness and the 3,000-acre lake. The refuge office is located at the Suffolk Post Office, Box 349, Suffolk, Virginia, 23434, telephone 804/986-3705.

The dozen or so hunting camps built when the property was privately owned have gradually disappeared, but the Fish and Wildlife Service still schedules special deer hunts when the interest justifies it.

While the lake is open all year to anglers, fishing is limited to daylight hours. Anglers should allow themselves approximately 30 minutes to get from the lake to the boat launching ramp near U.S. Highway 17.

There is some seasonal fluctuation in the level of the water, normally highest during the winter and spring. While spring is a prime time to fish the lake, I prefer the fall. October is a good month. The water may be low then, but not enough to affect the fishing. The insects are gone, there is some nip in the air, and the autumn foliage is at its peak of color. And the fish are hitting.

One angling survey showed that the average Lake Drummond fishing trip lasted 3½ hours and the angler caught 10 or 11 fish, mostly crappies and fliers. Over the years the lake has given up some big crappie, fish in the 2- to 3-pound class, but most run less than a pound.

Local anglers who know the lake well enjoy the most success. They consistently catch fish and concentrate on the black crappie, or speckles as they call them.

Camping is not permitted in the refuge, but there is a small Corps of Engineers campground near the tram on the Feeder Ditch. Many anglers camp there.

The lake can be fished in a canoe, but it can get choppy at times. A larger boat with a 5- to 10-horsepower outboard is a better choice.

Currently there is no fee for fishing the lake or using the tram, but subsequent to our October trip, the Corps of Engineers transferred the tram to a private operator. Included in the transfer was a provision to keep the Feeder Ditch and tram open for public use. Conceivably there may be a modest tram fee in the future, but Lake Drummond, the big black crappie, and the colorful little fliers will make it a good investment. □

Young Anthony Winegar with a mixed catch of Lake Drummond bullheads and yellow perch; both fish species are abundant (left). The author adds another flier to his growing stringer (above).

The Versatile Elderberry

This wild fruit grows in profusion, and over 30 species of wildlife enjoy it almost as much as people do. It can be used in pies, wine, jams and jellies.

by Francis X. Sculley

illustration by Phyllis Saroff

By hollowing out the center of a 10-inch length of elder wood, a kid of the Twenties could make a weapon that equaled the blowguns of the Jivaros. Using beans, peas, birdshot, or even green elderberries, a 12-year-old of that golden age could torment a front-seated movie fan to the point of mayhem, bouncing shot after shot off the poor fellow's cranium.

Very few kids make beanblowers thse days, but for those who remember them, the recollection always brings a chuckle.

As late as the Thirties, the hollowed lengths of elder were used as maple taps. Where the metal spouts were difficult to obtain, elder served just as well, simply because it was easy to find. Sumac was occasionally utilized, but it had a tendency to impart a taste to the sap.

Elderberries have to be America's most plentiful wild fruit, and—sadly—perhaps the most neglected. Found on open hillsides, along creek banks, skirting the big city supermarket and shopping mall, the fruit loaded with vitamin C is found in profusion.

In the spring, the three- to 13-foot shrub is loaded with dense, flat-topped white blossoms that grow in profuse clusters. These blossoms (or "blows" as they are commonly called) can provide one of the most delicious desserts to be found anywhere. After picking them, wash and dry thoroughly. Then simply dip the cluster in waffle batter and fry in deep fat. Afterwards, roll it in powdered sugar or serve with maple syrup or honey. Once you have tried this simple dessert, you will never get enough of it.

The blows are also made into a fine white wine, somewhat reminiscent of sauterne. During Prohibition, elder blow wine was as common as beer is now. The return of alcoholic beverages to the good graces of the nation saw both elder blow and dandelion wine disappear from the cellars of America.

The purple-black, juicy fruit is rarely more than 3/16 inches in diameter. It makes its appearance from August to October and grows in such plentitude as to bend the fragile bows of the shrub almost to the ground. Upon occasion, the fruit will be white, maroon, or even yellow, though such color mutations are rare.

Since it is high in hydrocyanic acid, it would seem that the elderberry might be dangerous to humans and animals, but this is not the case. Used extensively in the making of pies during the early part of their fruiting, elderberries are consumed by the tons. Eaten out of hand, the fruit has an insipid taste, but when added to finely chopped apples or lemon juice, the tiny berries make a pie unexcelled by any other.

Elderberries are also used in making jams and jellies, and here again, it is necessary to use a tart additive to obtain the best results.

Elderberry wine has an aroma and taste all its own. Untold numbers of hunting camps have a giant 20-gallon crock "working"in the heat of midsummer to provide the toasts for the visiting deer hunters, two or three months later.

Some 32 species of wildlife love elderberries almost as much as we do. Mourning dove, turkey, grouse and pheasant lead the parade, with opossum and deer bringing up the rear.

The domestic elderberry (*S. Nigra*) of Europe was introduced to Virginia a decade or so ago, and promptly escaped cultivation, as did dozens of other continental imports. Moving into the fields and pastures of the Old Dominion, the visitor from England's meadows hybridized with our wild native species. The result is a superior berry. Since migrating birds will distribute the seeds further north over a period of years, berry pickers will notice the difference within a few years.

There is also a bright red elderberry (*Sambucus rubescens*) which differs from its cousin of the roadside fields (*Sambucus candensis*) in several respects. The pith of the branches is brown rather than soft white. The fruit is bright red, growing in cones, and grows from June through September. This variety is fairly common in deep forests, but is rarely gathered by berry pickers. It sometimes produces a beautiful white berry rather than the conventional scarlet.

While elderberries are plentiful in the fields, there should be no problem for anyone who cares to take the time to cultivate the fruit. They can be raised in a back yard, and under the eyes and guidance of a good green thumb, the fruit will reach prodigious proportions.

Anyway, you can't go wrong on elderberries. □

August Journal

Hotline—Not So Hot For Virginia

The 800 number that we published last month for the Boating Education Hotline is good everywhere except in Virginia! The number to use for boating education in Virginia is (703) 823-9550. □

Virginia Boating Basics Course Get Underway

After nearly a year in preparation and planning, Virginia's 6-hour basic boating course is operational. The course is designed to appeal to the beginning boater who doesn't have time for longer courses, and to high school physical education classes.

Virginia hopes to certify 10-20,000 students during the next year and at least 20,000 per year after that. Fifty slots were allocated for the first instructor workshop held in late June, and more workshops will be scheduled around the state until 500 or more instructors have been trained.

A test class voted unanimously to use a three-meeting format that runs from 7:00 to 9:00 p.m. on consecutive nights. The schedule can be adjusted to accomodate school classes or other formats.

Built into the course are options which allow tailoring it to the local boating situation. Courses inland can emphasize white water canoeing and jonboat safety, while in Tidewater they might stress chart and compass navigation and weather. The plan is to involve volunteers from a variety of organizations such as canoe clubs, rescue squads and the Red Cross in addition to traditional boat safety organizations such as the Coast Guard Auxiliary and Power Squadrons.

Virginia is also experimenting with structured boating safety instruction coupled with hands-on experience with canoes in cooperation with the Division of State Parks. The experimental program is being conducted at newly opened Mason Neck State Park on Belmont Bay in Fairfax County.

For more information, write Boating Education, Commission of Game and Inland Fisheries, P.O. Box 11104, Richmond, Virginia 23230. □

Fishing Added To Westvaco Hunting Permit

Beginning July 1, 1984 Westvaco hunting permits for the 1984-85 hunting season also include fishing. There is no additional fee for the new combination hunting-fishing permit. The six dollar permit is valid for over 170,000 acres of Westvaco timberlands in 21 Virginia counties.

The new hunting-fishing permits are valid from July 1, 1984 to June 30, 1985 to correspond with Virginia's hunting license season. In order to fish in rivers, lakes, ponds and streams on Westvaco property, a valid permit is required and a new permit is necessary after June 30 of each year. Tracts leased to hunt clubs are not open to permit hunting or fishing unless otherwise posted.

Maps of lands open to permit hunting are available upon request when you purchase your permit. Mapped counties are Albemarle, Amherst, Appomattox, Bedford, Buckingham, Campbell, Charlotte, Franklin, Halifax, Henry, Louisa, Nelson and Pittsylvania. Maps are not available for fishing areas.

Hunting, fishing and other outdoor recreation opportunities are made available to the public through Westvaco's award-winning, multiple-use forestry program. Besides wood, the scientifically managed forests provide food and cover for wildlife, help control erosion, protect watersheds and offer opportunities for recreation. Westvaco recently opened the Buffalo Creek Nature Trail on the Bedford/Campbell County line off Route 24. This 150-acre natural area features a unique variety of plant communities and forest types along the three miles of trails. (See page 15.) In the interest of public safety, the Nature Area is reserved from hunting and shooting. Special Safety Zone signs mark the area. Sportsmen are asked to be particularly careful when hunting on the 900 acres which remain open to public permit hunting west of the Nature Area bordered by Buffalo Creek.

Westvaco Hunting/Fishing Permits may be obtained by sending your name, a stamped, self-addressed envelope, number of your hunting or fishing license and a $6 check or money order to Westvaco Corporation, P.O. Box WV, Appomattox, Virginia 24522. □

Robb to Address Conservation Banquet

The Virginia Wildlife Federation has announced that Governor Charles S. Robb will be the keynote speaker at the Federation's 19th Annual Awards Banquet in Roanoke.

The banquet will be held October 20 at 6:00 p.m. at the Hotel Roanoke.

Each year, the Federation and Sears Roebuck and Co. sponsor an awards program to recognize the efforts of conservationists in 13 different fields. They invite the public to place names in nomination for these awards. A form in provided on this page for *Virginia Wildlife* readers to make nominations. Deadline for these nominations is September 8, 1984;

they should be sent to the Virginia Wildlife Federation, 4602-D West Grove Court, Virginia Beach, Virginia 23455. Banquet tickets ($17 each) are also available from that address, and must be received by October 12.

Hotel reservations should be made directly with the Hotel Roanoke (at least two weeks in advance of your arrival date) by calling 1-800-542-5898, or writing P.O. Box 12508, Roanoke, Virginia 24026.There is a special discount room rate for VWF members and their guests.

VWF 1984 Conservation Awards Nomination Form

Send two copies of this form and all attachments to VWF Conservation Awards, 4602-D West Grove Court, Virginia Beach, Virginia 23455. Nominations must be postmarked no later than midnight, September 8, 1984. Additional forms are available from the above address.

Nominee

Name _____

Complete Address _____

_____

Award Category* _____

Please attach two copies of a resume of achievements (no longer than two typed pages), including organization memberships, affiliations, past achievements & recognition, specific actions on which recommendation is based, and other references for comparison. Full documentation is needed by the judges.

Recommended by:

Name _____

Title _____

Complete Address _____

_____

Name of Member Club _____

Date _____

*Please specify in which of the 13 categories the nomination is made; use a separate nomination form for each category and each individual or organization nominated.

Categories

Conservation Educator	Youth Conservationist	Legislative Conservationist
Conservation Organization	Conservation Communicator	Forest Conservationist
Soil Conservationist	Conservationist of the Year	Wildlife Conservationist
Water Conservationist	Clean Air Conservationist	River Conservationst
	Hunter Educator	

Vandals Damage Endangered Virginia Trees

Secretary William Clark has announced the full support of the Department of the Interior in a cooperative state and federal investigation of the destruction of endangered Virginia round-leaf birch tree seedlings by vandals.

Vandals dug up and removed, uprooted, or cut off at ground level all but 5 of 30 healthy, 2-year-old seedlings in Sugar Grove, Virginia, on the property of a landowner who has been cooperating with biologists in the protection and recovery program for the endangered trees. The damage was discovered May 17 during routine monitoring on the site in southwest Virginia by biologists.

"The loss of these young seedlings is a serious blow to the recovery of the wild round-leaf birch in Virginia," Clark said. "This kind of senseless vandalism is very disheartening. The Department of the Interior will cooperate fully with the Commonwealth of Virginia in the effort to find the people responsible for the vandalism."

A reward of $500 is being offered by Defenders of Wildlife for information leading to the arrest and conviction of those responsible for the vandalism. Anyone having information should contact H.S. Miller, Jr., at the Virginia Department of Agriculture and Consumer Services in Roanoke at 703/362-1606 or the Senior Resident Agent, U.S. Fish and Wildlife Service, in Richmond at 804/771-2481.

The Virginia round-leaf birch was the first tree placed on the U.S. Endangered Species List. The tree had been regarded as probably extinct since 1914 until it was rediscovered in 1975 in Smyth County, Virginia. □

Conservation Commission to Spend Millions on Pollution

The Virginia Soil and Water Conservation Commission (VSWCC) has approved a $3.125 million program aimed at reducing pollution entering the Chesapeake Bay and Chowan River from agricultural land. The program, which became effective July 1, 1984, is part of an effort involving Virginia, Maryland, Pennsylvania and Washington, D.C. to clean up the Bay.

"Many studies, including the Environmental Protection Agency (EPA) Chesapeake Bay Study, have shown that the Chesapeake is in trouble and agriculture must accept some of the responsibility," said VSWCC Director B.C. Leynes, Jr.

Under the new program, farmers in areas which drain into the Chesapeake Bay or Chowan River will be eligible for state cost-sharing funds. The state will pay a percentage of the farmer's costs to install practices that conserve soil and/or reduce the amount of pollutants entering waterways from their farms.

About two-thirds of the state drains into these basins and the program covers 68 of Virginia's 95 counties. Two "sub-basins," one concentrating on animal waste and the other on cropland have been targeted for special funding and emphasis in the program.

The "cropland priority" sub-basin includes 21 counties that drain into the York or Rappahannock River and two counties located on the Eastern Shore. The "animal waste priority" sub-basin consists of seven northwestern counties which drain into the Shenandoah River, a tributary of the Potomac River.

Although the VSWCC will be responsible for administering the program, 28 of Virginia's 44 soil and water conservation districts will have major roles. Also, the USDA Soil Conservation Service, the USDA Agricultural Stabilization and Conservation Service, the Virginia Cooperative Extension Service and the Virginia Division of Forestry will be involved in the program. □

The Living Bird Quarterly

A colorful new bird magazine, *The Living Bird Quarterly*, now being published by the Cornell University Laboratory of Ornithology, offers an abundance of stunning color photographs and articles about every aspect of bird life, written for the amateur as well as the professional.

The purpose of the laboratory is to support and promote the understanding and appreciation of birds and their roles in our environment. Not only is an interest in birds valuable in its own right, but it also leads to a general interest in, and concern with, the environment and conservation. The laboratory's goal is to capture and encourage the public's imagination and interest in birds as a basis for developing a broader conservation ethic.

Projects underway now include a colonial bird register; an expanding library of natural sounds; research into pigeon navigation; and the continuing captive breeding program aimed at developing a self-sustaining population of peregrine falcons in the wild. The laboratory's public education program includes seminars, home study courses in bird biology and bird photography, interpretive exhibits, art exhibits, a library, radio program and the new magazine, *The Living Bird Quarterly.*

The Laboratory of Ornithology is a non-profit organization involved in the most worthy work any bird lover could hope for. You can become a supporting member of the Laboratory for $25 per year and receive *The Living Bird Quarterly*, as well as other benefits of membership. For more information, write the Laboratory of Ornithology, Sapsucker Woods, Ithaca, New York 14850.—*Samuel A. Eliot (Reprinted from the New York* Conservationist *with permission.)*

Non-Game Update

It's hard to believe that the summer's heat is winding down and will soon give way to the sights, sounds and smells of autumn. And with the changing seasons come those visitors that will soon become so dependent upon our generosity at backyard feeding stations.

The downy woodpecker, a little black and white bird, is the smallest of our true woodpeckers and a permanent resident of Virginia. It is easily encouraged to a feeder when suet is provided.

White-throated sparrows help conserve on wasted seed by gleaning whatever spills on the ground. The white throat and the yellow patch in front of the eye help identify this visitor.

Photos by Leonard Lee Rue

Purple finches seem to settle into feeding stations en masse. A feeder supplied with sunflower seeds, milo and millet will appeal to purple finches. Although they are often mistaken for house finches, the purples are much redder and chunkier.

Also called the northern oriole, the Baltimore oriole is a striking example of nature's beauty. This time of year, you can see the orioles if fruit (especially orange halves) is nailed to posts and trees near your feeding area.

Everybody seems to love a chickadee and the black-capped is no exception. The little bird is smaller than the Carolina chickadee. This energetic winter resident eats mostly insect matter.

With these few examples of fall visitors to feeders and backyard habitats, is it any wonder that so many people enjoy the change to cooler weather and the wildlife that comes with it? □

by Jeffrey M. Curtis

August Journal

Field Notes

"I like the way you disgust the animals" read the letter. I hope I don't disgust animals, I said to myself as I chuckled at the student's thank you note. This unorthodox spelling of "discussed" was only one of notes sent to me by students at Highland Springs Elementary School.

Virginia game wardens spend a considerable amount of time with youngsters in our schools, talking about a variety of subjects. One of the rewards of spending this time is receiving thank you notes. What follows are just a few of the responses that we have received recently.

Dear Mr. Foster,
Thank you for the discussion on wildlife. I thought the animals were very interesting. I like the coloring books and phamplets were nice too. I learned a lot about wildlife. I'm glad people like you protect wildlife.
Roy Wingfield

Dear Mr. Foster,
I really liked your presentation. I also like the animals. I hope you can come again. I want to be a wildlife preserver when I grow up.
Love,
Chris

Dear Mr. Foster,
We thank you for bringing the animals. And talking about the animals and please come get this bobcat!!!
Gregory B.

Dear Mr. Crews and Mr. Agnew,
Thank you for coming to show us about safety with guns. I liked the film and thought it was interesting. I hope you come back to see us. Now I know what a muzzle is and a muzzle is dangerous to look into it, and that I warned my parents to keep it away from my little sister.
Sincerely,
Mary Nuckols

Dear Lieutenant Foster,
What do you do for a living in of work. Do you watch T.V. a lot at home? Do you cook at home? Is your job hard?
Your friend,
Chris Devoss

Dear Lieutenant Foster,
Hi, my name is Jeremy and I was in the library when you were talking about the animals. And I wanted to thank you in this letter. and tried to draw the animals.
Your friend,
Jeremy

Dear Mr. Crews and Mr. Agnew,
Thank you for showing us the film. I had to ask you a question. What do you do if you don't have any orange to put on? You taught me how to use a shotgun. I know how far a shotgun can shoot.
Sincerely,
Reggie Cameron

Dear Lieutenant Foster,
I'm glad you came. I liked the bear. I think the bear gets hot in the summer. With all that black.
Yours truly,
Jason

Dear Mr. Foster,
I liked your program very much. It was interesting to know about the animals in there. I especially like the bobcat and the bear. I am doing a endangered species report on the falcon in my class. I liked to learn about some more animals that are endangered. I hope that all the animals can become more living in the future.
Sincerely yours,
Mike Taylor

Dear Lt. Foster,
Thank you for the Virginia wildlife program. I learned a lot. The guessing game was a lot of fun. Now I know a lot about the kinds of food some animals eat. Too bad you had to leave.
Sincerely,
Darrell Eakes

Dear Lieutenant Foster,
I never new that a bobcat was not dangerous. But since you came I know about animals. I know that a bear is a omnivore and I know that deers is a herbivore and I know a otter is a carnivore. Thanks a lot for taking your time to teach us. I hope you'll come again.
Your friend,
Amy

by Lt. Herb Foster

Letters

The following letters were selected for publication to give us the opportunity to restate a couple of points for our readers.—Managing Editor

Subscription Snafu

As you can see, we have made numerous attempts to renew this subscription. Please make instructions clear on future subscription notices; it is very confusing when the enclosed renewal notice carries the address of the National Wildlife Federation.

We look forward to receiving your publication in the near future.
Robert D. Curtis, Jr.
Lynchburg

Your renewal order has been processed and you should begin receiving the magazine soon, if you haven't already.

Virginia Wildlife *magazine is published by the Virginia Commission of Game and Inland Fisheries in Richmond. We are not affiliated with the Virginia Wildlife Federation in Norfolk, the National Wildlife Federation in Washington, D.C., nor their publications, the* Federation Record *and* National Wildlife, *respectively. Certainly we share many of the same goals, and* Virginia Wildlife *does publish news items referring to the VWF and NWF, but there is no other connection.*

This has been a constant source of confusion for many of our subscribers as well as members of the two groups mentioned.

As far as the address is concerned, only our address appears on the renewal form: P.O. Box 11104, Richmond, Virginia 23230. The same address appears on the subscription form that we print in the magazine each month. Our address also appears on the inside front cover of the magazine.

Photo Reprints

Is there any possibility of getting an enlarged copy of the trillium photograph on page 4 of the May 1984 issue? This is what I have been looking for and I hope there is a way of getting a copy.

Carolyn Boyer
Elyria, Ohio

We're aware that many newspapers offer copies of their black-and-white photos for a charge, but we cannot provide this service, unfortunately. Clerical and bookkeeping tasks, as well as the fact that we deal almost exclusively in color slides, would make this cost-prohibitive. But more importantly, we purchase only limited rights to the slides from their photographers, making it legally impossible for us to do this in most cases.

About The Authors

Carl "Spike" Knuth is a native of Wisconsin; he has been on the staff of the Game Commission's education division since 1974. Spike is well known as the author and artist for "Bird of the Month," and contributes many features, photographs and paintings to the magazine. He is also the producer of the Game Commission's television program, "Virginia Wildlife." **Gregory Mertz** last wrote for *Virginia Wildlife* in the May 1984 issue: "Sound—Wildlife Survival Tool." He lives in Needham, Massachusetts. **Gregory Capelli** is an associate professor of biology at the College of William and Mary, and a squirrel hunter. This is his first article in *Virginia Wildlife.* **David Coffman** is public affairs forester for Westvaco's Timberlands Division. His efforts in the field of conservation information earned him a Virginia Wildlife Federation award as conservation communicator of the year in 1982. This is **Ellen Gwynn**'s first appearance in *Virginia Wildlife;* she is a resident of Charlottesville. **Bob Gooch** is a regular contributor to this and other outdoor magazines. His article, "The Spunky Yellowbreast," was published in our special fishing issue this year. **Francis X. Sculley** has written numerous articles for *Virginia Wildlife,* many of them on edible plants.

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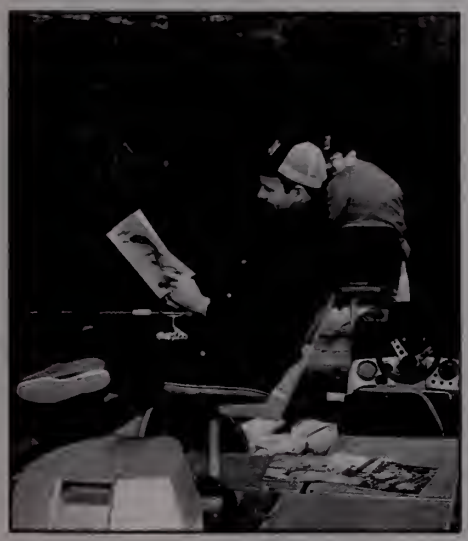

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KNUTH

Bird of the Month

The Catbird

Catbirds remind me of summer. This feeling probably stems from my first encounters with the little gray birds. As a boy fishing the shores of my favorite lake, I'd hear one in the dense hedgerows and thickets—a high pitched, single "mew" note from deep in the shadows. On those hot summer days, most birds cease their singing early in the day and become very inactive. The catbird seems to be one of the few birds that remains active throughout the day, although it confines itself to the deep shade of heavy brush. Only occasionally he'll fly quickly across a clearing to another thicket—a plain, dark gray form with a longish tail. While the catbird tends to be secretive, it does have a curious streak and has to investigate any intrusions.

The catbird is found exclusively in North America, as are his close relatives, the mockingbird and the brown thrasher. They belong to a family which the ornithologists refer to as the mimic thrushes. Like its cousins, the catbird is a bird of shady thickets, heavy shrubs and other thick undergrowth. Its Latin name, *dumetella*, means "little thicket." Some of its local names are black mockingbird, chicken bird, cat flycatcher, slate-colored mockingbird and black-capped thrush. Actually, its dark, drab gray appearance is a good field mark since there is no other bird that is uniformly gray with a black cap. While perched, it occasionally flips its black tail nervously. The only touch of color the catbird has is a little reddish patch on its undertail coverts. The catbird is just smaller than a robin, and a little trimmer.

Its song is not unlike those of its two cousins—disjointed notes and phrases—although not as melodious. Unlike the mockingbird and brown thrasher, the catbird does not repeat any phrases. It will occasionally sing at night like the mockingbird, but it is not as good a mimic. It frequently interrupts its song with the distinctive harsh "mewing" note, similar to a high-pitched cat "meeow," but a single syllable. This is often accompanied by a wren-like, scolding, "tschek-tschek." One oddity about its call is that it can sound as if it is many yards away when, in fact, it is in a thicket close by. It has the ability to control the volume, possibly to confuse any predators. In autumn they seldom sing, but if they do, it is a soft, almost whispering call.

Catbirds are among the many songbirds that migrate at night. Upon their arrival to the breeding grounds, the males are very quiet as they await the females. The silent period ends as the courtship begins. The male goes through much feather-fluffing, wing-drooping and dancing about with tail raised. There's much chasing and dashing through the thickets with brief pauses only to sing a few notes. Once paired off, the nest building follows almost immediately. The nest is built low to the ground, but well-hidden. It is constructed of twigs, leaves and grasses, lined with rootlets and hairs. The four to six eggs are a deep, glossy, greenish-blue. While the hen incubates her eggs, the male sings continuously. They nest close to houses in shrubs such as pyracantha, japonica, autumn olive or privet—the thicker the better. They have a liking for orchards, gardens and parks with interspersed thickets; or along forest edges, field borders, stream banks and lake shores. Catbirds commonly raise two broods in a season.

Its food in spring consists of insects and insect larvae and it turns to wild fruits as they ripen. Wild cherries, blackberries, grape, dogwood berries, elderberries, greenbrier, sumac and poison ivy are among its favorites. From a feeder it will take raisins, apples, boiled potatoes, nuts, seeds and bread, but since it is somewhat secretive it is not easily drawn out into the open. While it is secretive, the catbird is not timid. On the contrary, it is curious and quite bold—again, similar to the mockingbird. I recall an injured catbird placed in the care of a licensed wildlife handler which unmercifully pecked at the hand that was trying to nurse it back to health.

The catbird breeds over most of the southern edge of Canada from British Columbia, east, and most of the United States except the Pacific Coast, southwestern and Gulf Coast states. In winter it retires to the South from Virginia to Florida and the Gulf Coast, to Cuba and the Bahamas, and through Mexico to Panama. Almost all Virginia Game Commission Wildlife Management Areas have good populations of catbirds in summer, and the southeastern part of the state has a few wintering birds during milder winters. Look for them in thick shrubs, tangles of vines, briery and thorny plants such as grape, greenbrier and blackberry, with some open land nearby. Listen for the "mewing" cat-call, stand quietly in the shade as near as possible to the thicket, and sooner or later, the curious catbird will appear briefly, moving catlike through the thick growths to investigate the visitor to his domain. □

by Carl "Spike" Knuth

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